## IN THE CLAIMS

**Listing of Claims:**

1. (Previously presented) A method for responding to a request to transfer data between a first virtual machine (VM) in a computer system and a virtual storage device backed up by a data storage unit within a multipath data storage system, the method comprising:

identifying the request issued by the first VM, the request being a virtual data transfer request, the first VM being one of a plurality of VMs;

identifying a plurality of possible paths over which the data could be routed from the computer system to the data storage system and multipath routing information related to a state of each of the possible paths;

determining VM-specific information related to the first VM;

selecting one path of the plurality of paths according to an algorithm, which takes as inputs at least contents of the multipath routing information and contents of the VM-specific information; and

routing a physical data transfer request corresponding to the virtual data transfer request to the data storage system over the one path that was selected.

2. (Previously presented) The method of claim 1, further comprising:

determining whether a failure has occurred that prevents the transfer of data over a first path of the plurality of possible paths;

failing over to one or more alternate paths when the failure has occurred, deciding whether the first VM should be suspended according to a second algorithm, wherein the second algorithm takes as inputs at least whether the failure has occurred and contents of the VM-specific information, and suspending the first VM when the second algorithm returns a decision to suspend the first VM.

3. (Previously presented) The method of claim 2, further comprising not routing the to the data storage unit.

4. (Previously presented) The method of claim 1, in which the VM-specific information indicates a priority of the first VM relative to other VMs of the plurality of VMs.

5. (Previously presented) The method of claim 2, wherein the VM-specific information indicates a priority of the first VM relative to other VMs of the plurality of VMs, and the second algorithm results in a decision to suspend the first VM when the first VM is determined to have a lower priority than one or more other VMs of the plurality of VMs and the failure is determined to have occurred.

6. (Previously presented) The method of claim 2, wherein the suspending of the first VM includes suspending the first VM until the failure is corrected.

7. (Previously presented) The method of claim 2, wherein the suspending of the first VM includes suspending the first VM until a failback occurs.

8-31. (Cancelled)

32. (Currently amended) A method for responding to a request to transfer data between a first virtual machine (VM) in a computer system and a virtual storage device backed up by a data storage unit within a multipath data storage system, the method comprising:

identifying the request issued by the first VM, the request being a virtual data transfer request, the first VM being one of a plurality of VMs;

identifying a plurality of possible paths over which the data could be routed from the computer system to the data storage system and multipath routing information related to each of the possible paths;

determining whether a failure has occurred that prevents the transfer of data over a first path of the plurality of possible paths;

determining VM-specific information related to the first VM; and

when the failure is determined to have occurred, deciding whether the first VM should be migrated to a different physical computer system according to an algorithm, which takes as inputs at least contents of the VM specific information, and migrating the first VM to a different physical computer when the failure has occurred.

33. (Previously presented) The method of claim 32, further comprising, when the failure is determined to have occurred, failing over to one or more alternate paths.

34. (Previously presented) The method of claim 32, further comprising not routing the data the data storage unit.

35. (Previously presented) The method of claim 32, in which the VM-specific information indicates the first VM's priority relative to other virtual machines.

36. (Previously presented) The method of claim 35, wherein the first VM is determined to have a lower priority than one or more other virtual machines.

37. (Currently amended) A ~~tangible~~ computer readable storage medium embodying a computer program for handling a data transfer request in a computer system, the computer system comprising virtualization software interposed between and interfacing with a plurality of virtual machines (VMs) and system hardware, the computer program being integrated with or coupled to the virtualization software, whereby, when executed on the computer system, the computer program causes the virtualization software to perform a method for handling a data transfer request between a first VM of the plurality of VMs and a virtual device backed up by data storage unit within a multipath data storage system, the method comprising:

identifying the data transfer request issued by a first VM;

identifying a plurality of possible paths over which the data could be routed from the computer system to the data storage system and multipath routing information related to a state of each of the possible paths;

determining VM-specific information related to the first VM;

selecting one path of the plurality of paths according to an algorithm, which takes as inputs at least contents of the multipath routing information and contents of the VM-specific information; and

routing a physical data transfer request corresponding to the virtual data transfer request to the data storage system over the one path that was selected.

38. (Currently amended) The ~~tangible~~ computer readable storage medium of claim 37, wherein the method further comprises:

determining whether a failure has occurred that prevents the transfer of data over a first path of the plurality of possible paths;

failing over to one or more alternate paths when the failure has occurred;

deciding whether the first VM should be suspended according to a second algorithm, which takes as inputs at least whether the failure has occurred and contents of the VM-specific information; and

suspending the first VM when the second algorithm returns a decision to suspend the first VM.

39. (Currently amended) The ~~tangible~~ computer readable storage medium of claim 37, wherein the method further includes not routing the data to the data storage unit.

40. (Currently amended) The ~~tangible~~ computer readable storage medium of claim 37, in which the VM-specific information indicates a priority of the first VM relative to other VMs of the plurality of VMs.

41. (Currently amended) The ~~tangible~~ computer readable storage medium of claim 38, wherein the algorithm results in a decision to suspend the first VM when the first VM is determined to have a lower priority than one or more other VMs of the plurality of VMs and the failure is determined to have occurred.

42. (Currently amended) The ~~tangible~~ computer readable storage medium of claim 38, wherein the suspending of the first VM includes suspending the first VM at least until the failure is corrected.

43. (Currently amended) The ~~tangible~~ computer readable storage medium of claim 38, wherein the suspending of the first VM includes suspending the first VM at least until a failback occurs.

44-48. (Canceled)

49. (Previously presented) The method of claim 1, further comprising:

deciding, prior to the routing and according to a second algorithm, whether to immediately route the request or to queue the request, the second algorithm taking as inputs at least contents of the multipath routing information and contents of the VM-specific information, wherein the routing is immediately performed when the deciding results in a decision to immediately route the request.

50. (Previously presented) The method of claim 1, wherein the VM-specific information indicates an amount of disk bandwidth that is allocated to the VM.

51. (Previously presented) The method of claim 1, wherein the multipath routing information includes a pending data transfer load for each of plurality of possible paths over which data could be routed.

52. (Previously presented) The method of claim 51, wherein:

the VM-specific information includes an identifier of the first VM as the source of the request; and

the algorithm distributes requests such that substantially all requests received from the first VM are routed over the one path, and substantially all requests from at least another VM of the plurality of VMs are routed over a second path of the plurality of possible paths.

53. (Previously presented) The method of claim 1, further comprising:

determining whether a failure has occurred that prevents the transfer of data over a first path of the plurality of possible paths;

when the failure has occurred:

failing over to one or more alternate paths when the failure has occurred;

deciding whether the first VM should be migrated to a different physical computer according to a second algorithm, which takes as inputs at least contents of the VM-specific information;

and migrating the first VM when the second algorithm returns a decision to migrate the first VM.

54. (Currently amended) The ~~tangible~~ computer readable storage medium of claim 37, wherein the method further comprises:

deciding, prior to the routing and according to a second algorithm, whether to immediately route the data transfer request or to queue the data transfer request, the second algorithm taking as inputs at least contents of the multipath routing information and contents of the VM-specific information, wherein the routing is immediately performed when the deciding results in a decision to immediately route the data transfer request.

55. (Currently amended) The ~~tangible~~ computer readable storage medium of claim 37, wherein the method further comprises:

determining whether a failure has occurred that prevents the transfer of data over a first path of the plurality of possible paths;

failing over to one or more alternate paths when the failure has occurred;

deciding, according to a second algorithm, whether the first VM should be migrated to a different physical computer system, the second algorithm taking as inputs at least whether the failure has occurred and contents of the VM-specific information; and

migrating the first VM to the different physical computer system when the second algorithm returns a decision migrate the first VM.

56. (Currently amended) The ~~tangible~~ computer readable storage medium of claim 37, wherein the VM-specific information indicates an amount of disk bandwidth that is allocated to the VM.

57. (Currently amended) The ~~tangible~~ computer readable storage medium of claim 37, wherein the multipath routing information includes a pending data transfer load for each of plurality of possible paths over which data could be routed.

58. (Currently amended) The ~~tangible~~ computer readable storage medium of claim 37, wherein:

the VM-specific information includes an identifier of the first VM as the source of the request; and

the algorithm distributes requests such that substantially all requests received from the first VM are routed over the one path, and substantially all requests from at least another VM of the plurality of VMs are routed over a second path of the plurality of possible paths.